REMARKS

These remarks are responsive to the Final Office Action dated September 22, 2006.

Currently claims 1-15 are pending with claims 1, 8, and 13 being independent. Claims 1, 8, and

13 have been amended to accommodate the Examiner's objections and rejections. Claims 3-4

and 9-11 have been amended to correct informalities. Support for the amendments can be found

in the specification at least on page 12, line 10 to page 18, line 10.

Interview

Applicants would like to thank Examiners Troung and Pham for an opportunity to discuss

the present application during December 20, 2006 telephonic interview. The following is a

summary of the interview.

1) No exhibits were shown or discussed during the interview.

2) Claims discussed: 1, 8, and 13.

3) References discussed: U.S. Patent No. 5,991,753 to Wilde (hereinafter, "Wilde").

4) Applicants advised the Examiners that the present invention is directed to methods and

systems for protecting files. Specifically, claim 1, as currently amended, recites, *inter alia*,

receiving, maintaining a list of repository nodes that are associated with each file in the set of

files by updating a location component in the fileserver, wherein the repository nodes store a

replica of the file, and, replacing each stub file with a full content of the file associated with the

stub file; and wherein the replacing includes receiving a client request for a specified file in the

set of files, replacing the stub file associated with the specified file with a full content of the

specified file. In contrast, Wilde discloses a method and a system for computer file management

that is capable of maintaining a list of files in the system as well as a list of files that cannot be

migrated. Wilde fails to disclose, teach, or suggest maintaining a list of repository nodes that are

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associated with each file in the set of files by updating a location component in the fileserver, wherein the repository nodes store a replica of the file, as recited in claim 1.

During the interview, the Examiners maintained the rejections of the claims and stated that Wilde discloses maintaining a list of repositories that are associated with a file in a set of files. The Examiners stated that the recitation of "maintaining a list of repository nodes" should be clarified to refer to locations where a replica of a particular file in the set of files is stored.

The Examiners and Applicants did not reach an agreement with regard to the discussed claims and the cited Wilde reference.

The following is a substantive response to the September 22, 2006 Final Office Action.

Objections

In the Final Office Action, the Examiner objected to the specification because the listed cross-referenced applications are missing their serial numbers. Applicants corrected this informality by providing a substitute paragraph for the paragraph beginning on page 1, line 10 of the specification. Thus, this objection is now moot and the Examiner is respectfully requested to withdraw his objection.

35 U.S.C. 112

In the Final Office Action, the Examiner rejected claim 13 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the application regards as the invention. The Examiner stated that there exists an "if statement", however, it is indefinite as to what happens if the if statement is false. (Office Action, page 3). Applicants amended claim 13 to delete this limitation. Thus, this rejection is now moot. The Examiner is respectfully requested to withdraw his rejection of claim 13.

35 U.S.C. 102(b)

In the Final Office Action, the Examiner rejected claims 1-4 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,991,753 to Wilde (hereinafter, "Wilde"). This rejection is respectfully traversed.

Amended claim 1 recites, *inter alia*, maintaining a list of repository nodes that are associated with each file in the set of files by updating a location components in the fileserver, wherein the repository nodes store a replica of the file, and replacing each stub file with a full content of the file associated with the stub file, and wherein the replacing includes receiving a client request for a specified file in the set of files, replacing the stub file associated with the specified file with a full content of the specified file.

Wilde discloses a method and a system for computer file management, including file migration, special handling, and associating extended attributes with files. Wilde's system migrates a file by copying the file to a migration store on a remote storage device. Wilde's migrated copy of the file is called a bit file that contains all contents of the original file. Wilde retains a stub file after the original file has been truncated to a smaller size with the insertion of additional information necessary to recognize the file as a stub file, to locate the bit file, and to preserve any altered attributes. (Wilde, Col. 5, lines 40-50). This is different than receiving metadata and stub files associated with the set of files at a destination fileserver, as recited in claim 1. Wilde migrates a copy of an entire file rather than a stub file. (Wilde, Col. 5, lines 44-45). Further, Wilde retains a stub file that contains information about the file. (Wilde, Col. 5, lines 46-50). In contrast, the present invention receives metadata and stub files associated with the files, as recited in claim 1. Thus, Wilde does not disclose this element of claim 1.

Wilde generates a list of files in the file system that are eligible for migration. From the list, a sufficient number of files is selected and migrated to bring the file system utilization

percentage down. (Wilde, Col. 8, lines 11-29). Further, Wilde generates a list of files that cannot

be migrated, i.e., a locked list. (Wilde, Col. 14, lines 30-42). This is different than maintaining a

list of repository nodes that are associated with each file in the set of files by updating a location

components in the fileserver, wherein the repository nodes store a replica of the file, as recited in

claim 1. The present invention updates a location component that maintains a list of repository

nodes as opposed to Wilde's list of files. Thus, Wilde does not disclose this element of claim 1

and claim 1 should be allowed.

Dependent claims 2-4 are not anticipated by Wilde for at least the reasons stated with

respect to claim 1 above. As such, the rejection of claims 2-4 is respectfully traversed. The

Examiner is requested to reconsider and withdraw his rejection of claims 2-4.

35 U.S.C. 103(a)

In the Final Office Action, the Examiner rejected claims 5-6 under 35 U.S.C. 103(a) as

being unpatentable over Wilde in view of U.S. Patent No. 5,276,867 to Kenley et al. (hereinafter,

"Kenley"). This rejection is respectfully traversed.

Claims 5-6 are dependent on the independent claim 1. As such, Wilde does not disclose,

teach or suggest all elements of claims 5-6 and hence claims 5-6 are patentable over Wilde for at

least the reasons stated above with respect to claim 1. Kenley does not cure the deficiencies of

Wilde. Kenley provides a hierarchical digital data storage system enabling storage and

"transparent" access to digital data. (Kenley, Col. 2, lines 34-36). Kenley includes primary,

secondary and backing storage elements, where each element has a different storage space and

speed of access. (Kenley, Col. 2, lines 44-55). Kenley includes a data migration element that

automatically migrates data from secondary storage to backing store at selected times or in

response to a secondary-storage-full signal. (Kenley, Col. 2, lines 60-65). Kenley's backing store

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stores data organized as files and includes a file access element enabling a user to request

selected files stored in the backing store. (Kenley, Col. 3, lines 29-32). Kenley's data file stage-

in element executes a batched set of file stage-in operations specified by a set of file names

asserted by the user. (Kenley, Col. 3, lines 48-51). However, Kenley does not disclose, teach or

suggest receiving metadata and stub files associated with the set of files, as recited in claim 1. In

contrast, Kenley migrates entire files, thereby significantly slowing processing speed and

requiring greater storage space, rather than stub files and any associated metadata. Further,

Kenley does not include a location component that maintains a list of repository nodes associated

with each file in the set of files, wherein the repository nodes store a replica of the file, as recited

in claim 1. Instead, Kenley teaches a three-element storage system consisting of a primary,

secondary and backing store elements. Kenley does not maintain a list of repository nodes that

are associated with each specific file that they store. Once Kenley stores a file, it can be migrated

back and forth between storage elements based on user or application requests. Thus, Kenley

does not disclose all elements of claim 1. As such, neither Wilde nor Kenley nor their

combination disclose, teach or suggest all elements of claim 1. Thus, the combination of Wilde

and Kenley does not teach or suggest all elements of claims 5-6. Hence, this rejection is

traversed.

In the Final Office Action, the Examiner rejected claims 8, 11, and 12 under 35 U.S.C.

103(a) as being unpatentable over Wilde in view of U.S. Patent Pub. No. 2004/0083202 to Mu et

al. (hereinafter, "Mu"). This rejection is respectfully traversed.

Claim 8 is patentable over Wilde for at least the reasons stated above with respect to

claim 1. Specifically, Wilde does not disclose, teach or suggest, *inter alia*, a recovery service in

communication with the fileserver API and with the file system and operative to transfer a set of

files, the recovery service having: a receiving component operative to receive metadata and stub

files associated with the set of files at the fileserver and a location updating component in

communication with the receiving component and operative to maintain a list of repository nodes

that are associated with each file in the set of files, wherein the repository nodes store a replica of

the file, as recited in claim 8.

Mu does not cure the deficiencies of Wilde. Mu discloses techniques for reducing false

recalls by controlling recalls performed by data migration application in a storage environment

that includes a plurality of storage units. (Mu, Abstract). Mu's storage system includes a data

processing system coupled to storage resources via communications links. (Mu, Para. 0037).

Client computers can be coupled to the storage system. (Mu, Para. 0037). However, Mu does not

disclose a recovery service in communication with the fileserver API and with the file system

and operative to transfer a set of files, the recovery service having: a receiving component

operative to receive metadata and stub files associated with the set of files at the fileserver and a

location updating component in communication with the receiving component and operative to

maintain a list of repository nodes that are associated with each file in the set of files, wherein

the repository nodes store a replica of the file, as recited in claim 8. Thus, neither Wilde nor Mu

disclose, teach or suggest all elements of claim 8, and claim 8 should be allowed.

Even if one were to combine Wilde and Mu, which would be improper, the present

invention is not realized. Wilde relates to a method and a system for computer file management,

including file migration, special handling, and associating extended attributes with files. Wilde's

system migrates a file by copying the file to a migration store on a remote storage device. Mu

relates techniques for reducing false recalls by controlling recalls performed by data migration

application in a storage environment that includes a plurality of storage units. The combination

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of Wilde and Mu relates to a system for computer file management and migration that includes a

storage system for reducing false recalls. However, the combination of Wilde and Mu fails to

disclose, *inter alia*, a recovery service in communication with the fileserver API and with the file

system and operative to transfer a set of files, the recovery service having: a receiving

component operative to receive metadata and stub files associated with the set of files at the

fileserver and a location updating component in communication with the receiving component

and operative to maintain a list of repository nodes that are associated with each file in the set of

files, wherein the repository nodes store a replica of the file, as recited in claim 8.

As such, claim 8 is not rendered obvious by the combination of Wilde and Mu. Thus, this

rejection is respectfully traversed. The Examiner is requested to reconsider and withdraw his

rejection of claim 8.

Claims 11 and 12 are dependent on independent claim 8. As such, claims 11 and 12 are

patentable over the combination of Wilde and Mu for at least the reasons stated above with

respect to claim 8. Hence, the rejection of claims 11 and 12 is respectfully traversed. The

Examiner is requested to reconsider and withdraw his rejection of claims 11 and 12.

In the Final Office Action, the Examiner rejected claims 9-10 under 35 U.S.C. 103(a) as

being unpatentable over Wilde and Mu further in view of Kenley and U.S. Patent Pub. No.

2003/0078946 to Costello et al. (hereinafter, "Costello"). This rejection is respectfully traversed.

Claims 9-10 are dependent upon independent claim 8. Claim 8 is patentable over the

combination of Wilde, Mu, and Kenley for at least the reasons stated above with respect to

claims 1 and 8. Costello does not cure the deficiencies of the combination of Wilde, Mu, and

Kenley. Costello discloses a cluster of computer system nodes that share direct read/write access

to storage devices via a storage area network using a cluster file system. (Costello, Abstract).

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Costello is capable of mirroring of data volumes in a mass storage. (Costello, para. 0082).

Costello uses mirroring in conjunction with striping in which different portions of data volume

are written to different disks to increase speed of access. (Costello, para. 0082). However,

Costello fails to disclose, teach or suggest, *inter alia*, a recovery service in communication with

the fileserver API and with the file system and operative to transfer a set of files, the recovery

service having: a receiving component operative to receive metadata and stub files associated

with the set of files at the fileserver and a location updating component in communication with

the receiving component and operative to maintain a list of repository nodes that are associated

with each file in the set of files, wherein the repository nodes store a replica of the file, as recited

in claim 8. Thus, the combination of Wilde, Mu, and Costello fail to teach all elements of claim

8. Since, claims 9-10 are dependent upon claim 8, they are patentable over the combination of

Wilde, Kenley, Mu, and Costello for at least the reasons stated above with respect to claim 8.

Hence, this rejection is respectfully traversed. The Examiner is requested to reconsider and

withdraw his rejection of claims 9-10.

In the Final Office Action, the Examiner rejected claims 13-14 under 35 U.S.C. 103(a) as

being unpatentable over Wilde in view of Mu and Costello. This rejection is respectfully

traversed.

Claim 13 is patentable over the combination Wilde, Mu and Costello for at least the

reasons stated above with respect to claims 1 and 8. As such, this rejection is respectfully

traversed. The Examiner is requested to reconsider and withdraw his rejection of claim 13.

Claim 14 is dependent on independent claim 13. As such, it is patentable over the

combination of Wilde, Mu and Costello for at least the reasons stated above with respect to claim

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13. Hence, this rejection is respectfully traversed. The Examiner is requested to reconsider and withdraw his rejection of claim 14.

In the Final Office Action, the Examiner rejected claim 15 under 35 U.S.C. 103(a) as being unpatentable over combination of Wilde and Kenley. This rejection is respectfully traversed.

Claim 15 is dependent on the independent claim 1. As such, claim 15 is patentable over the combination of Wilde and Kenley for at least the reasons stated above with regard to claims 1-14. As such, this rejection is respectfully traversed. The Examiner is requested to reconsider and withdraw his rejection of claim 15.

No new matter has been added. The claims currently presented are proper and definite. Allowance is accordingly in order and respectfully requested. However, should the Examiner deem that further clarification of the record is in order, we invite a telephone call to the Applicants' undersigned attorney to expedite further processing of the application to allowance.

Applicants believe that no additional fees are due with the filing of this Amendment. However, if any additional fees are required or if any funds are due, the USPTO is authorized to charge or credit Deposit Account Number: 50-0311, Customer Number: 35437, Reference Number: 25452-015.

Respectfully submitted,

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